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SERIAL NUMBER	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/083,861	06/28/93	DOKTOR K	M12261CUS

EXAMINER	
TOPLU, I	

ART UNIT	PAPER NUMBER
2316	20

B3M1/0111

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DATE MAILED: 01/11/96

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

☑ This application has been examined ☑ Responsive to communication filed on 10/6/95 ☑ This action is made final.

A shortened statutory period for response to this action is set to expire three month(s), ____ days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

1. ☐ Notice of References Cited by Examiner, PTO-892.
2. ☐ Notice of Draftsman's Patent Drawing Review, PTO-948.
3. ☐ Notice of Art Cited by Applicant, PTO-1449.
4. ☐ Notice of Informal Patent Application, PTO-152.
5. ☐ Information on How to Effect Drawing Changes, PTO-1474.
6. ☐ _____.

Part II SUMMARY OF ACTION

1. ☑ Claims 69-71 AND 82-85 are pending in the application.

   Of the above, claims _____ are withdrawn from consideration.

2. ☐ Claims _____ have been cancelled.

3. ☐ Claims _____ are allowed.

4. ☑ Claims 69-71 AND 82-85 are rejected.

5. ☐ Claims _____ are objected to.

6. ☐ Claims _____ are subject to restriction or election requirement.

7. ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.

8. ☐ Formal drawings are required in response to this Office action.

9. ☐ The corrected or substitute drawings have been received on _____. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).

10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on _____. has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).

11. ☐ The proposed drawing correction, filed _____, has been ☐ approved; ☐ disapproved (see explanation).

12. ☐ Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received ☐ been filed in parent application, serial no. _____; filed on _____.

13. ☐ Since this application apppears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.

14. ☐ Other

EXAMINER'S ACTION

1. Applicant's arguments filed october 6, 1995 have been fully considered but they are not deemed to be persuasive.

2. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
>
> Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

Claims 69-71 and 82-85 rejected under 35 U.S.C. § 103 as being unpatentable over Shimaoka et al in view of Green.

In his response applicant stated:

> "The Examiner concedes that in "Shimaoka et al all entities are stored in one file and all relationships are stored in another file." However, the Examiner asserts that "Green ... in figure 1 shows that it is well-known to provide a table for each entity type and a table for each relation." Furthermore, the Examiner asserts that multiple tables for entity types and relations "is also evidenced by the database join operations commonly performed in the art." Applicant respectfully submits that the Examiner's assertions are not supported by the prior art. **Figure 1 of Green only depicts relation tables not entity tables.** As stated in Green, col. 3, lines 39-42, "there are relations: S 101, which describes the suppliers, P 103, which describes the parts and SP 105, which describes how many of each part each supplier has." Green is devoid of any

> teaching or suggestion of using separate tables for each entity type."

The examiner disagrees with applicant. SP105 has two entities, which are namely S# and P#. The combined table **S#P#** clearly indicates a relationship of S# and P# entities. As can be seen in figures 1 and 4, S# and P# are stored in different tables. These are different tables since they are specified by table names as shown on col. 4 line 27. Green must have an indication of where the S# and P# tables are stored since it locates a specific entry of S# or P#(see column 4 lines 5-8 where it states that S# from S101 is the same as the value in the column S# from SP 105).

Applicant further states:

> "Specifically, the system of Green does not store entity instances in any form outside of the relations table. In Green, entity instances "may be obtained from the relations by specifying the relations which contain the information (entity instance) and restrictions on the relations." Green, col. 3 lines 47-50. Green gives the example that "the name of the supplier in London may be obtained by specifying the relation S and the restriction that the value of the column SNAME be returned from all rows in which CITY='LONDON'." Therefore, in the System of Green **there is no separate storage of entity instances from the relations and certainly no suggestion of having multiple entity instance tables."**

The examiner traverses these arguments. As can be seen in figure 1, the S# table and P# table are represented separately from the S#P# table. Each one of the S# table and P# table is an entity instance table. The examiner is not completely clear as to what applicant means by "there is no separate storage of entity instances", since two pieces of data cannot be stored in the same

place. Different tables are shown on col. 6 lines 53-65, col. 4 line 27, col. 7 line 58-col. 8 line 25, col. 8 line 43-col. 9 line 41).

Applicant further adds:

> "Applicant also respectfully submits that **the JOIN operation found in other art does not evidence multiple tables for different entity types.** For example, in Tashiro et al. the JOIN operation refers to processing search rules not for joining entity instance tables. Therefore, the presence of the JOIN operation does not evidence multiple entity instance tables."

The examiner disagrees. Microsoft Computer dictionary(second edition) defines a database **join** operation as follows:

A database table operation that creates a resultant entry in another table for each entry in one table whose key field matches that of an entry in the other. This clearly suggests that the entity instances are stored in different tables and the resultant table after the join operation relates entity types as well-as entity instances.

Applicant further asserts:

> "Since none of the Art cited by the Examiner uses a multiple entity instance tables, none of the references would require an entity definition table, with entity type records which define the entity instance tables.
>
> The Examiner also stated that "It would have been obvious to one of ordinary skill in the art to store the entities and relationships by type in order to reduce the search space and Shimaoka et al clearly suggests this by using an item code to distinguish various types." Applicant, respectfully submit that since Shimaoka specifically teaches to use one file for the entity instances **that the use of item codes would not lead one of ordinary skill to use separate entity instance tables for each entity type based on Shimaoka.** Furthermore, as discussed above, Green also

> does not teach or suggest using multiple entity instance tables for each entity type.
> Therefore, Applicants respectfully submit that the using an entity instance table for each entity type is novel and nonobvious over the prior art.

The examiner submits that an item code clearly suggests that entity instances may be classified under a common item code or type. One of ordinary skill in the art would be motivated to store items which belong to the same item code in a separate file in order to easily access items with the same code. Green also clearly shows separately storing different types of entities in different tables as explained above.

Applicant further quoted claim 69 ii) and stated:

> As discussed above, **using an entity definition table to define entity instance tables based on entity type records is not taught or suggested by the prior art.** Therefore, Applicant respectfully submits that Claim 69 is patentable over both Shimaoka et al and Green as well as their combination.
> Accordingly, Applicant **requests reconsideration and withdrawal of the rejection of Claim 69** under 35 U.S.C. §103.
> Applicant respectfully submits that **Claims 70-71,** which are dependent upon Claim 69, **are patentable for at least the reasons given above with regards to Claim 69.**
> .....
> As discussed above, having a **"desired entity instance table" for the "desired entity type" is not taught or suggested by the prior art.** Therefore, Applicant respectfully submits that **Claim 82 is patentable over both Shimaoka et al and Green as well as their combination.** Accordingly, Applicant requests reconsideration and withdrawal of the rejection of Claim 82 under 35 U.S.C. §103.
>
> Applicant respectfully submits that Claims 83-85, which are dependent upon Claim 82, are patentable for at least the reasons given above with regards to Claim 82."

As set forth above, Green reference clearly shows separate tables for each entity type. Shimaoka et al in view of Green

clearly meets all the limitations of the claims. Therefore, the rejection of the claims under 35 USC 103 is proper and hence it will be maintained.

3. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a).

A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 C.F.R. § 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lucien Toplu whose telephone number is (703) 305-9671.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-9600.

L. Toplu
January 2, 1996

KEVIN A. KRIESS
PRIMARY EXAMINER
GROUP 2300